

PATENT

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ABSTRACT OF THE DISCLOSURE

[0048] An improved rotational motor, such as a spindle motor for a disc drive, is provided. The motor first comprises a hub having a shaft portion and a horizontal body portion. The motor also comprises a sleeve surrounding the shaft portion of the hub. A fine first vertical gap is retained between the shaft and the inner diameter of the surrounding sleeve. In addition, a fine horizontal gap is provided between the upper hub portion and the top of the sleeve. A third gap is preferably provided between the hub and an outer diameter of the sleeve. The first vertical gap is filled with a lubricating liquid, such as a clean oil. A capillary seal is provided in the third gap. In one embodiment, the lubricating liquid extends into the horizontal gap. Oil pumping grooves are machined along the horizontal fluid gap. When the hub is rotated, the oil pumping grooves impel oil towards the shaft. This prevents any portion of the first vertical gap from becoming un-lubricated during rotation of the shaft.

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